Information Technology

UTC Vision 2025 – Achieving Excellence

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IT Priorities

- Solid core infrastructure
  - Network connectivity
  - Wireless
  - Network Capacity (especially given increased use of LMS and systems)
- Classroom Technology Resources to support UTC IT needs
- Technology to help retention and improve student's learning outcome

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Major IT Issues Ahead

- Core Infrastructure needs upgrade including 10 gig to every building/routing and redundancy
- Classroom Technology (Lecture Capture, smart boards, health care technology)
- VoIP (unified communications including voice, web conferencing)
- IT Staff towards competitive benchmarking
- Campus Expansion
- Data analytics, Business Intelligence, Big Data
- Restructure the Help Desk to create a "UTC IT Call Center" ready for the needs of the whole university

IT at UTC

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Organizational Chart
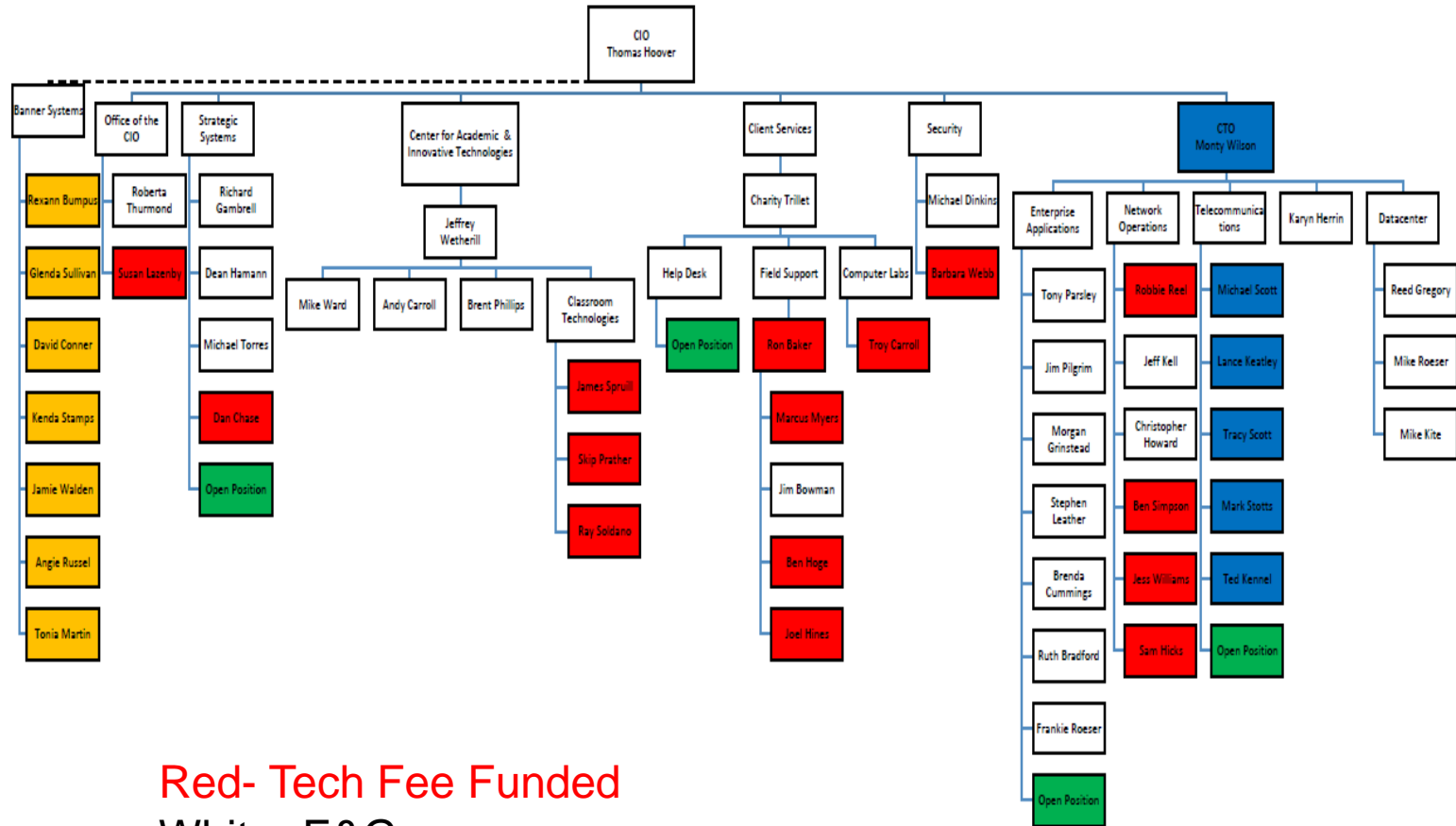
Red- Tech Fee Funded
White- E&G
Blue- Telecom Recovery
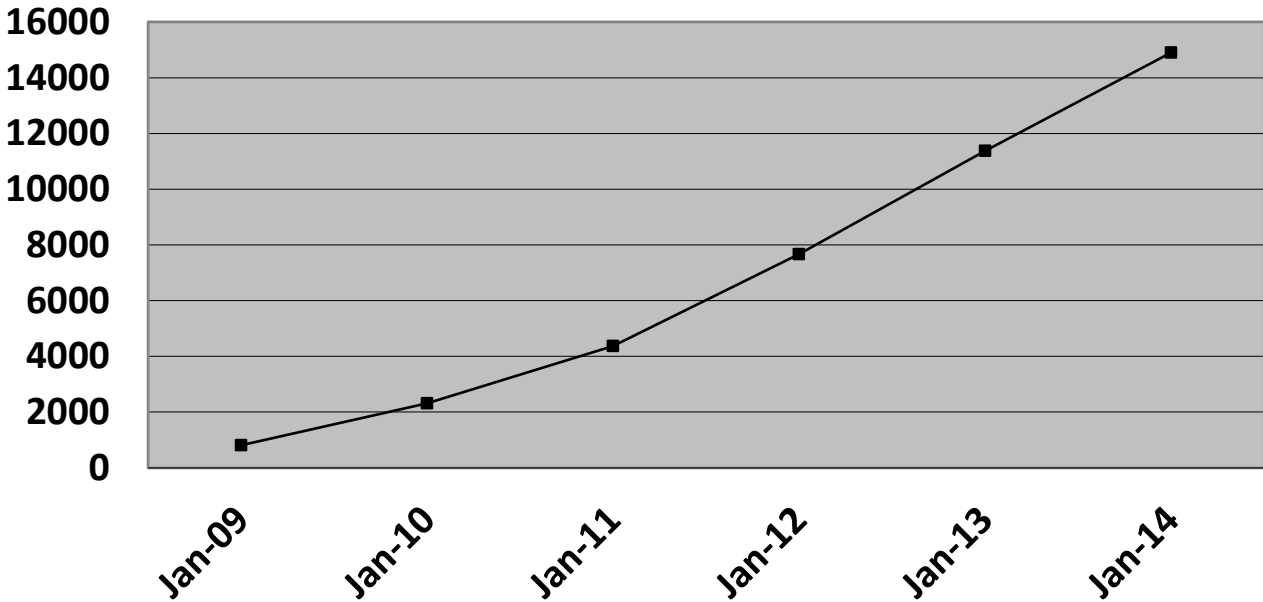**Yellow- Banner Project**
Green- Open Positions

LMS Opportunities

- A True Virtual Classroom for all classes
- More Analytics and usage information
- More Building Blocks
- A next generation LMS
- Better Integration

Technology on Network

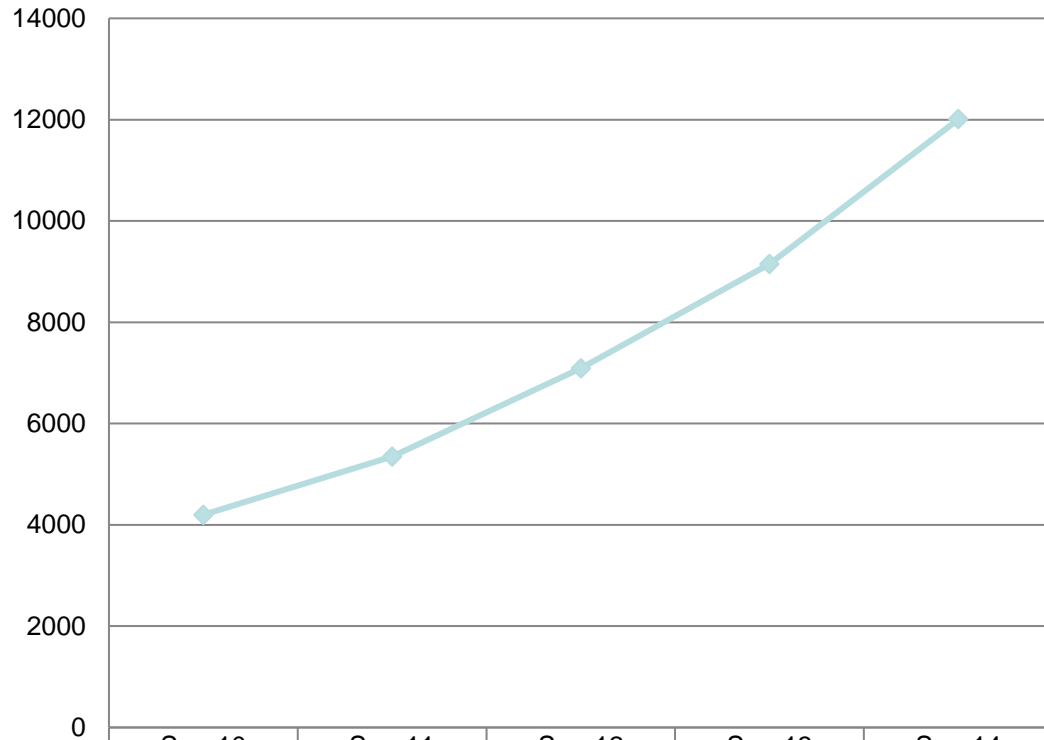**Registered Mobile Devices**

	Sep-09	Sep-10	Sep-11	Sep-12	Sep-13	Sep-14
Registered Mobile Devices	809	2315	4375	7661	11379	14906

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Technology on Network

Peak number of Registered Concurrent Network Devices (Wired and Wireless)

	Sep-10	Sep-11	Sep-12	Sep-13	Sep-14
Peak number of Registered Concurrent Network Devices (Wired and Wireless)	4197	5345	7090	9150	12,010

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Tech Fee Breakdown 2014

- **$2,300,000 Total**
- $200,000 Bond Repayment
- $280,000 Blackboard and staff
- $540,000 System Charges
- $58,000 Library Requests
- $614,000 Salary (FTE and Student Workers)
  (See slide #6 for breakdown of staff)
- $100,000 EPB Connectivity
- $450,000 maintenance, contracts, campus wide software

Technology

Our border router has been up for 2 years, 5 weeks, and 5 days. 770 days total. During that time, the campus has downloaded the

following amount of data.

EPB1: 536855120670762 bytes = 536.85 TB

EPB2: 567684144710340 bytes = 567.68 TB

UTK: 978628522612541 bytes = 978.62 TB

For a grand total of 2083.15 TB or 2.08 PB (that's petabytes).

Campus Wide Money Spent on IT equipment (computers, etc.)

- FY 2014 $1,388,845
- FY 2013 $1,330,954
- FY 2012 $ incomplete data
- FY 2011 $1,422,043

Technology Refresh

Note: Failure of uplinks causes the entire building to be without network access.

	New	Middle	Old		
Access	42	245	266	553	<- Total Access Switches
POE	62	51	0	113	<- Total POE and POE+ switches
Uplink	26	5	32	63	<-Total Uplink Switches
	130	301	298	729	

- New (0-4) years
- Middle Aged (4-8 years)
- Old (8+ years)

Technology Refresh
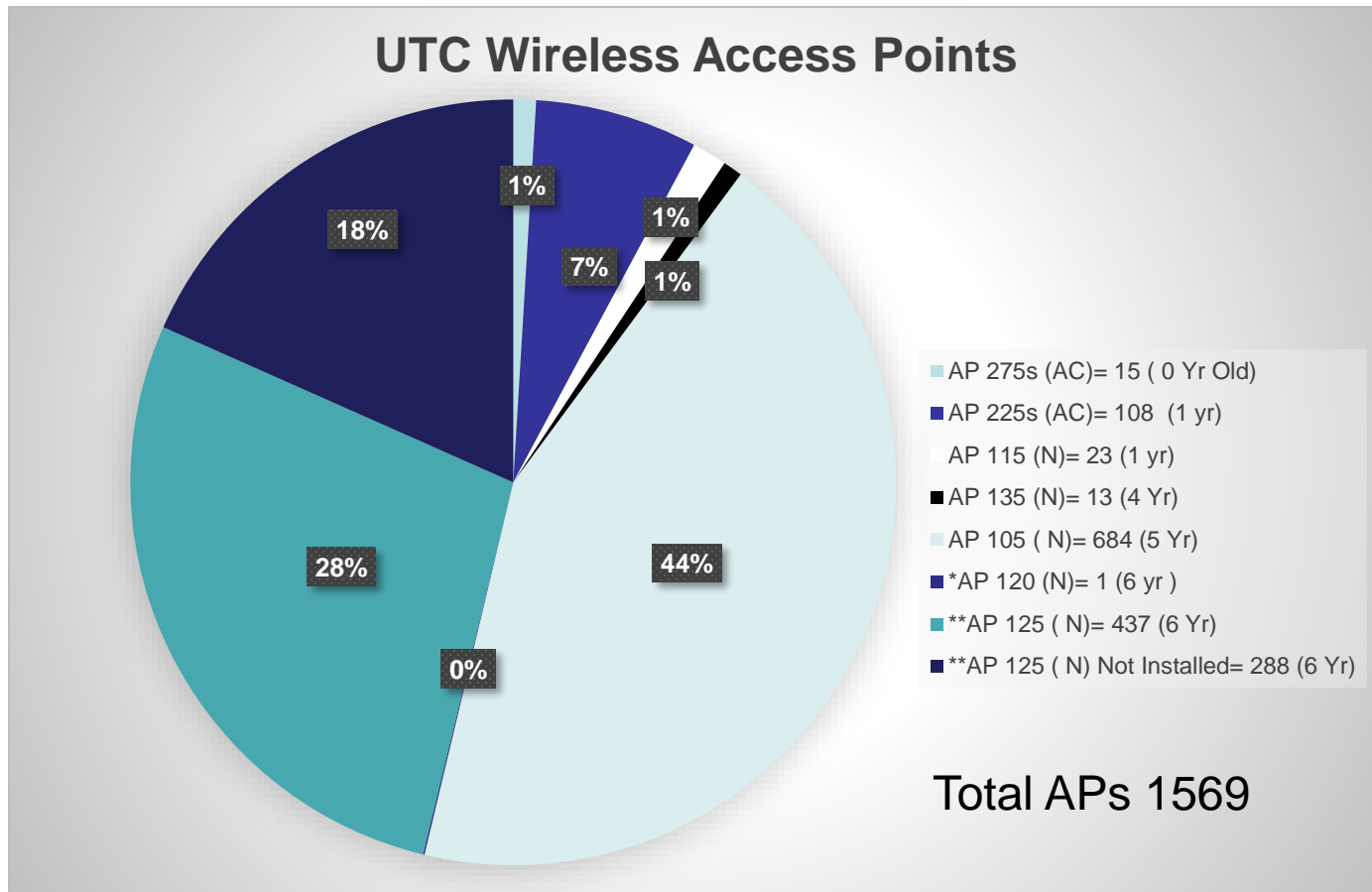
Instructional Technology

Classroom Projectors

- Ages 10 to 16 Years Old = 28
- Ages 5 to 8 Years Old = 54
- Ages 4 = 19
- Ages 2 to 3 = 25
- 1 Year Old and newer = 21

14%, 19%, 17%, 13%, 37%

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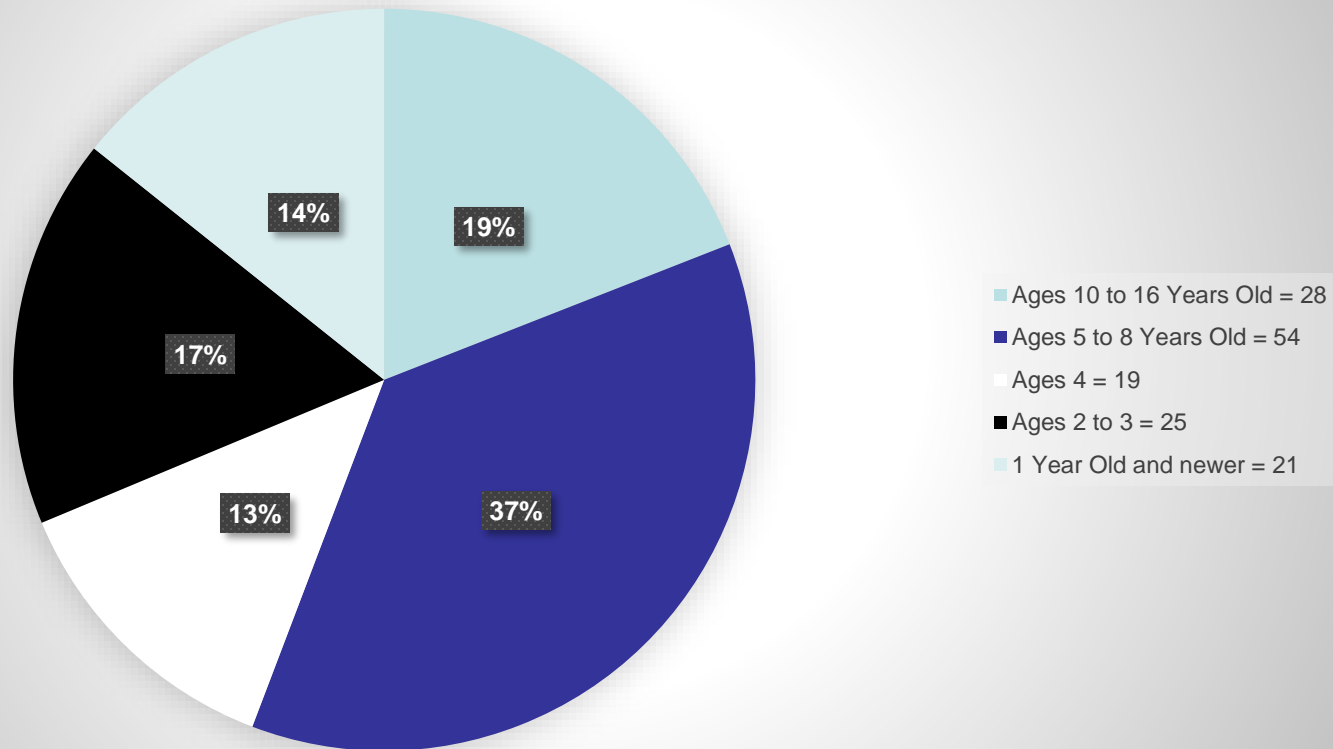
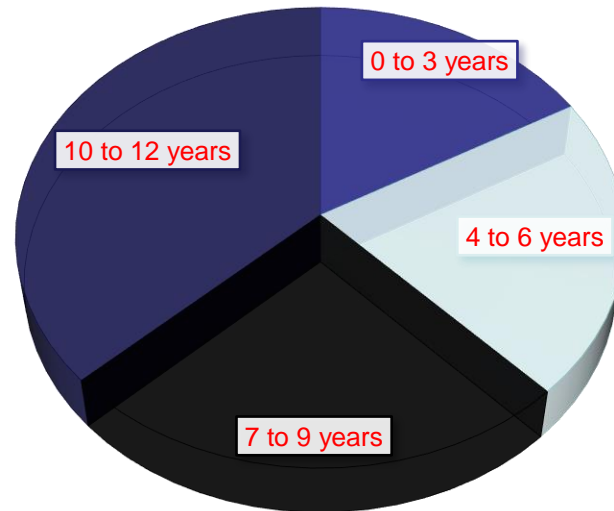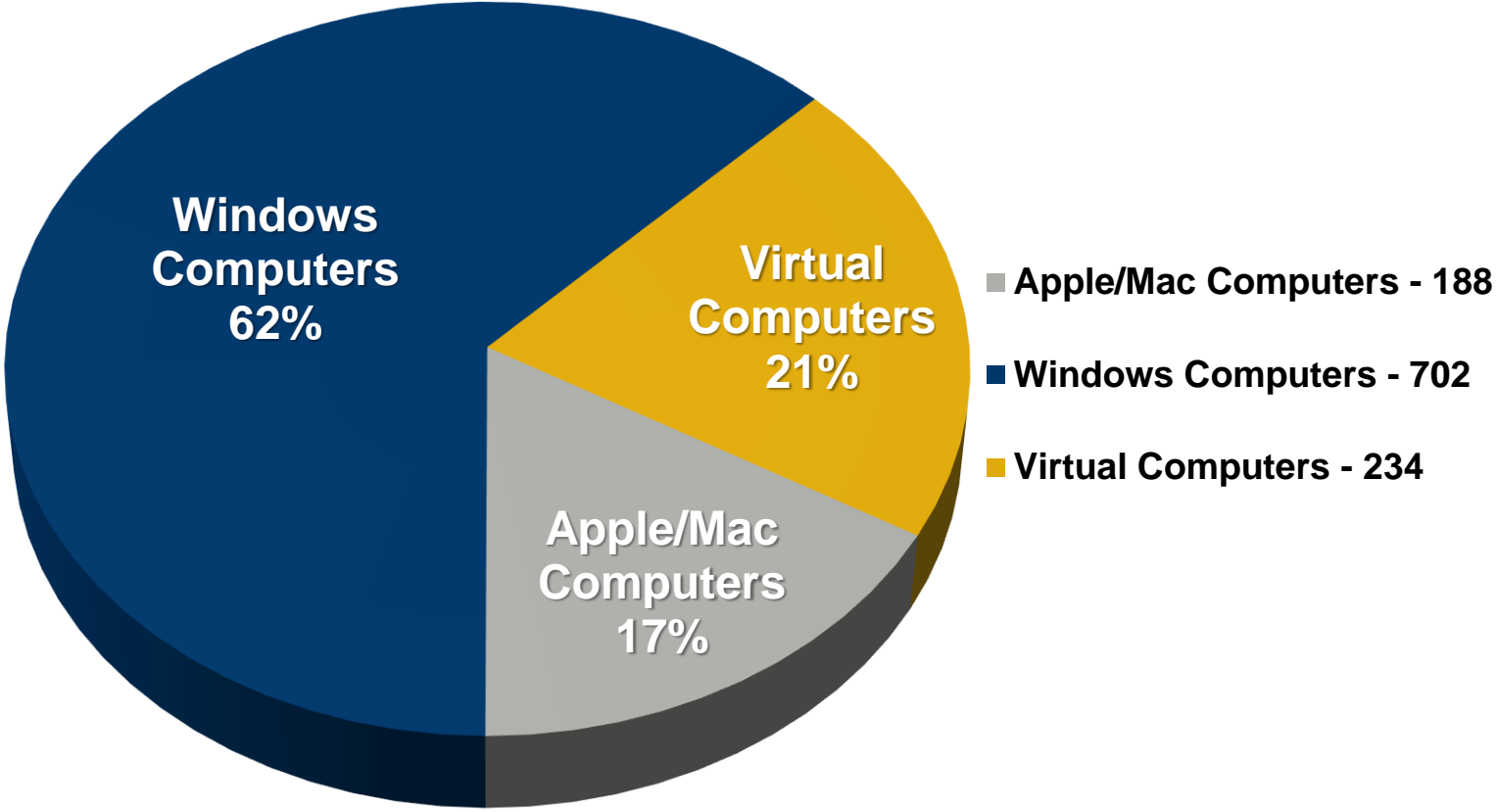# Instructional Technology

0 to 3 yrs= 144
4 yo 6 years= 182
7 to 9 years= 219
10 to 12 years= 318

Total 863

SWITCHES AND ROUTERS

Lab Computer Age

- **Average age is 4 years 2 months**
- **Only 10 labs are still under warranty**
- **Oldest lab is 8 years 10 months old**

LAB NAME	BUILDING	ROOM	AGE (years)	# OF COMPUTERS
Nursing Lab 2	Metro	229	0.8	50
Interior Design lab	Hunter	106	1.5	5
GIS Lab	EMCS	236	1.5	32
OSD Lab 1	Frist	105	1.9	11
Math Plaza	Maclellan Gym	200	2.5	105
English Classroom 3	Holt	399	2.8	21
Math Lab	EMCS	206	2.9	45
Psychology Lab 2	Holt	349B	3.0	17
Chemistry Lab	Grote	316	3.5	23
Psychology Lab 1	Holt	302	3.5	24
Physics, Astronomy, & Geology Classroom 1	Grote	214	3.6	13
Art PMA Lab	Fine Arts Center	340	3.9	12
Music Lab	Fine Arts Center	307	3.9	10
Student Support Services Lab	Frist	328	4.0	9
Communications Writing Lab 2	Frist	205	4.5	16
English Classroom 1	Holt	101	4.8	25
Language Lab	Brock	101	5.0	28
Art Lab	Fine Arts Center	412B	5.2	18
Banner Lab	Race	209	5.2	16
Communications Print Lab 2	Frist	202	5.3	7
Student Technology Center	University Center	124	5.5	75
University Honors Lab	Guerry	200	6.7	8
Communications Writing Lab 1	Frist	203	6.9	16
Education Classroom	Hunter	407	7.9	27
Writing Center	Holt	119	8.5	6
Criminal Justice Classroom	Davenport	111	8.9	28

Engineering Labs

LAB NAME	BUILDING	ROOM	# OF COMPUTERS
Engineering – Classrooms	EMCS	401, 404, 407	77
Engineering – Alstom ME Lab	EMCS	124	10
Engineering – Basic Engr Sci Lab	EMCS	424	10
Engineering – Biomechanics	EMCS	109	10
Engineering – Centerprise Engergy Lab	EMCS	123	10
Engineering – Civil Engineering	EMCS	103	10
Engineering – Civil Engr Mtls Infrastructure Lab	EMCS	122	30
Engineering – Comp Lab Sppt Engr Design	EMCS	408	26
Engineering – EE Systems Lab	EMCS	322	15
Engineering – EE Telecom Lab	EMCS	323	24
Engineering – Electrical Engr SmartGrid Lab	EMCS	304	6
Engineering – Electric Power Systems Lab	EMCS	308	26
Engineering – Engr Dynamics Lab	EMCS	213	24
Engineering – Engr Mgmt Distance Learning Lab	EMCS	231	24
Engineering – Env & Chem Process Lab	EMCS	120	10
Engineering – ETAP/TVA Power Simulation Lab	EMCS	402	23
Engineering – Fluid Mechanics	EMCS	106	10
Engineering – Fluid Power Lab	EMCS	105	10
Engineering – Grad EEI Lab	EMCS	305	6
Engineering – Industrial Engineering	EMCS	107	10
Engineering – Instrumentation Advanced Elec	EMCS	310	20
Engineering – Interdisciplinary Design	EMCS	108	10
Engineering – Mini Baja Lab	EMCS	114	7
Engineering – Smart Grid Lab	EMCS	406	10
Engineering – Soil Lab	EMCS	102	10

Computer Science Labs

LAB NAME	BUILDING	ROOM	# OF COMPUTERS
Computer Science	EMCS	220	34
Computer Science	EMCS	301	45
Computer Science	EMCS	302	24
Computer Science	EMCS	306	24
Computer Science – Design Lab	EMCS	312	20
Computer Science – EE Smart Grid Lab	EMCS	321	25
Computer Science – Info Security Lab	EMCS	323	25

Specialized Software

- Symantec Ghost Console Client for imaging
- Visual Studio for programming
- Platform SDKs for development
- Minitab
- Matlab
- Many other open source applications

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49 Computer Labs managed by IT

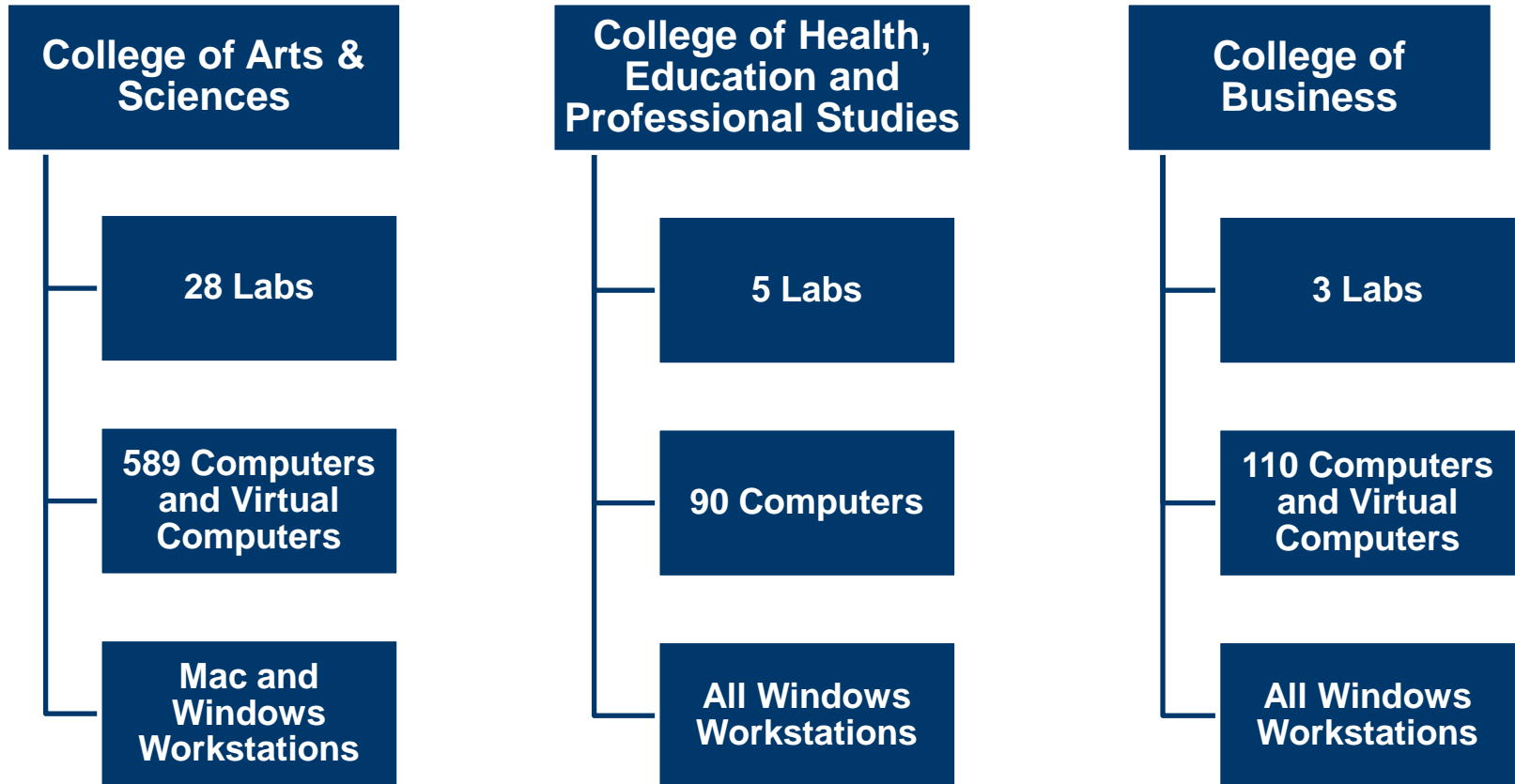| **17**
Classroom Use Only | **19**
Departmental Access Only | **13**
mixed use between classes and departmental access |

Most Used Applications

- **Web Browsers (Internet Explorer, Firefox, Chrome)**
- **Microsoft Office**
- **SPSS**
- **Maple**
- **Adobe Creative Suite**
- **Google Earth**

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Virtual Desktop Initiative at UTC

Political Science Lab	14 stations	**Deployed** December, 2014
Brock Scholars (UHON) Lab	8 stations	**Deployed** July, 2014
HHP Lab	32 stations	**Deployed** July 2014
Writing Center	6 stations	**Deployed** August, 2014
Athletics Lab	60 stations	**Deployed** Summer 2014
Student Support Services Lab	10 stations	Planned for Spring 2015
Criminal Justice Lab	24 stations	Planned for Spring 2015

Breakdown by College
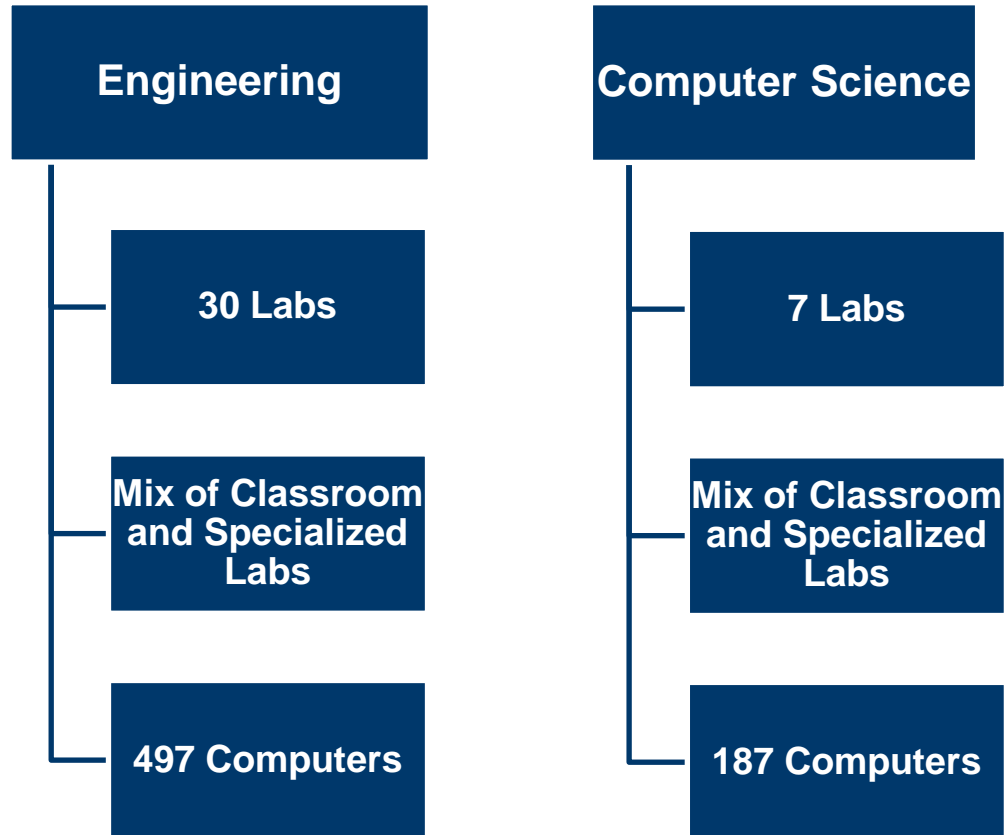
College of Arts & Sciences

- 28 Labs
- 589 Computers and Virtual Computers
- Mac and Windows Workstations

College of Health, Education and Professional Studies

- 5 Labs
- 90 Computers
- All Windows Workstations

College of Business

- 3 Labs
- 110 Computers and Virtual Computers
- All Windows Workstations

Engineering & Computer Science

Engineering

Computer Science

30 Labs

7 Labs

Mix of Classroom and Specialized Labs

Mix of Classroom and Specialized Labs

497 Computers

187 Computers

Tech Fee Breakdown 2014

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Tech Fee Breakdown 2015

- After increased Tech Fee this year, we will break even with the Banner System Charges
- With $100 increase next year we would:
  - Refresh Classroom technology and enhance technology in classrooms and through LMS
  - Focus on upgrading core IT infrastructure across the university
    - 10 Gig to buildings (now only Admin, Hunter and new Library have this)
    - Replace old aging unsupported network hardware
    - Add wireless on campus where needed

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Benchmarking Data

UTC Central IT Budget= $2,808,958 (Not including Student Tech Fee of $2,057,477)

University Budget FY 2015 Total $143,018,798

Institutional FTE Student= 10,080 Staff and Faculty= 1,105

Central IT= 43

Institution	Operating	Tech Fee	Salaries & Benefits	Total Budget
University of TN Martin (6,800 Students)	$3,869,996	$1,682,000	$2,621,540	$6,491,598
TN Tech (11,000 Students)	$1,700,000	$3,800,000	$3,800,000	$9,700,000
UTC (11,670 Students)	$464,838	$2,057,477	$2,344,120	$4,866,435

2013 CDS Summary Report

Table 1. Median Compensation Spending per Central IT Staff FTE

	FY2009/10	FY2010/11	FY2012/13
AA	$57,555	$58,679	$59,736
BA Private	$57,201	$55,551	$61,968
BA Public	$35,824	$37,269	$36,178
MA Private	$53,420	$57,682	$64,902
MA Public	$57,270	$56,053	$63,054
DR Private	$78,758	$78,959	$80,956
DR Public	$63,023	$63,125	$68,304
All U.S.	$59,646	$60,273	$64,902

NOTE:
UTM library has two IT people that are part of the library and paid for out of library funds.

UTC Central average salary $53,400

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Benchmarking Data

- Outline departmental benchmarking data for budget size, staffing levels, etc.

Institution	Fall 2013 FTE	FY13 Operating	IT Money per FTE
University of Tennessee at Chattanooga	10,016	$4,276,899	$427.01
Auburn University at Montgomery	3,944	$1,657,376	$420.23
College of Charleston	10,581	$16,183,086	$1,529.45
Northern Kentucky University	12,374	$10,278,422	$830.65
Tennessee Technological University	10,054	$9,800,000	$974.74
University of Nebraska at Omaha	11,657	$2,705,684	$232.11
University of North Carolina Wilmington	11,927		$0.00
University of North Florida	12,884	$8,823,809	$684.87
University of West Florida	9,080	$5,502,830	$606.04
Western Carolina University	7,860	$9,371,077	$1,192.25
Average			**$723.27**

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Competitive Benchmarking

IT Staffing			
Institution	2012	2011	2010
Auburn University at Montgomery	24	23	22
College of Charleston	93	83	
Northern Kentucky University	109	111	84
Tennessee Technological University	39	33	
University of Nebraska at Omaha	51	50	45.5
University of North Carolina Wilmington		85	89
University of North Florida	78	73.5	72.5
University of West Florida	48.5	52.5	51
Western Carolina University	85.23	88.22	82.15
UTC	50	56	46
Peer Average	65.96625	74.9025	63.73571
Difference	15.96625	18.9025	17.73571

Benchmarking Data

Core Data Service Almanac Master's Initiations	UTC Based on Benchmarks	Actual UTC (including Tech Fee)	Difference
$842 Total Central IT Spending per institutional FTE (students Staff, and Faculty)	$9,977,700	$2,808,958 $2,057,477 Total: $4,866,435	- $5,111,265
$5,311 Total Center IT spending per institutional employee (faculty and staff)	$5,868,655	$2,808,958 $2,057,477 Total: $4,866,435	- $1,002,220
5% Total IT central as percentage of institutional expenses	$7,150,940	$2,808,958 $2,057,477 Total: $4,866,435	- $2,284,505
7.5 Central IT FTE per 1,000 intuitional FTES	90	43	- 47

Information Technology
Competitive Benchmarking

Table 1. Median Compensation Spending per Central IT Staff FTE

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All U.S.	$59,646	$60,273	$64,902

EDUCAUSE 2013 Benchmarks
7.5 Central IT FTEs per 1,000 institutional FTEs: UTC Staff Current 51
Should be 97.5

Budget Comparison
UT Martin= $4,230,000 (Student 6,676 FTE)
UTC= $5,129,302 (Student 11,738 FTE)
Source: Berry Dunn Security Posture Assessment

Actual UTC IT Budget= $5,358,057
US Median: UTC IT budget = $12,025,000
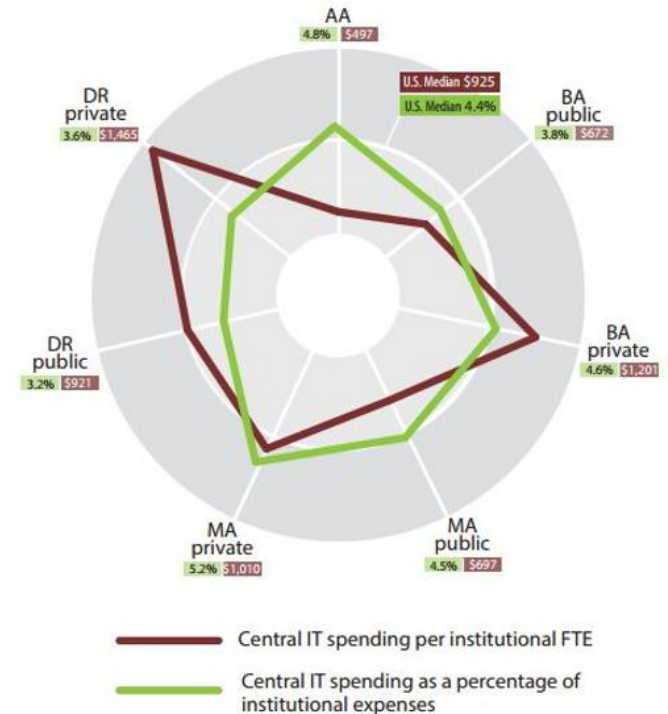MA Public Masters: UTC IT Budget= $9,061,000

Figure 2. Central IT Spending vs. Institutional Expenses and Institutional FTE, by Carnegie Class

Central IT spending per institutional FTE

Central IT spending as a percentage of institutional expenses

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Questions

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